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(54) **METHOD FOR MANUFACTURING BRACELET LINKS**

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A44C 5/10 (2006.01)

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CPC . ***A44C 5/04*** (2013.01); ***A44C 5/10*** (2013.01); *Y10T 29/49591* (2015.01)

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See application file for complete search history.

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(57) **ABSTRACT**

1. Method of batch manufacturing bracelet links, characterized in that the method includes the steps of:

a) taking a profile bar made of a material in which the link blanks are delimited in relation to each other transversely by slots extending in a general direction of extrusion of the profile bar;

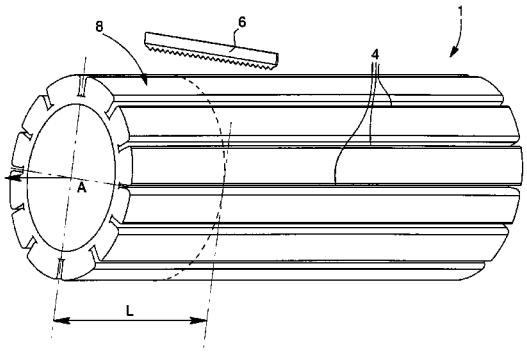
b) machining a first blank, if necessary, in the profile bar, while it is still in a single piece,

c) cutting the profile bar over a determined length defining the width of the link blanks so as to obtain a ring having the link blanks at the periphery thereof;

d) shaping the link blanks into the final form by a final rough machining operation;

e) thinning the surface of the ring forming the connection between the link blanks until the links are separated from each other.

19 Claims, 2 Drawing Sheets



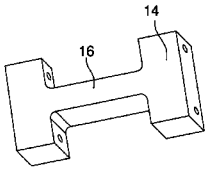


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Fig. 1

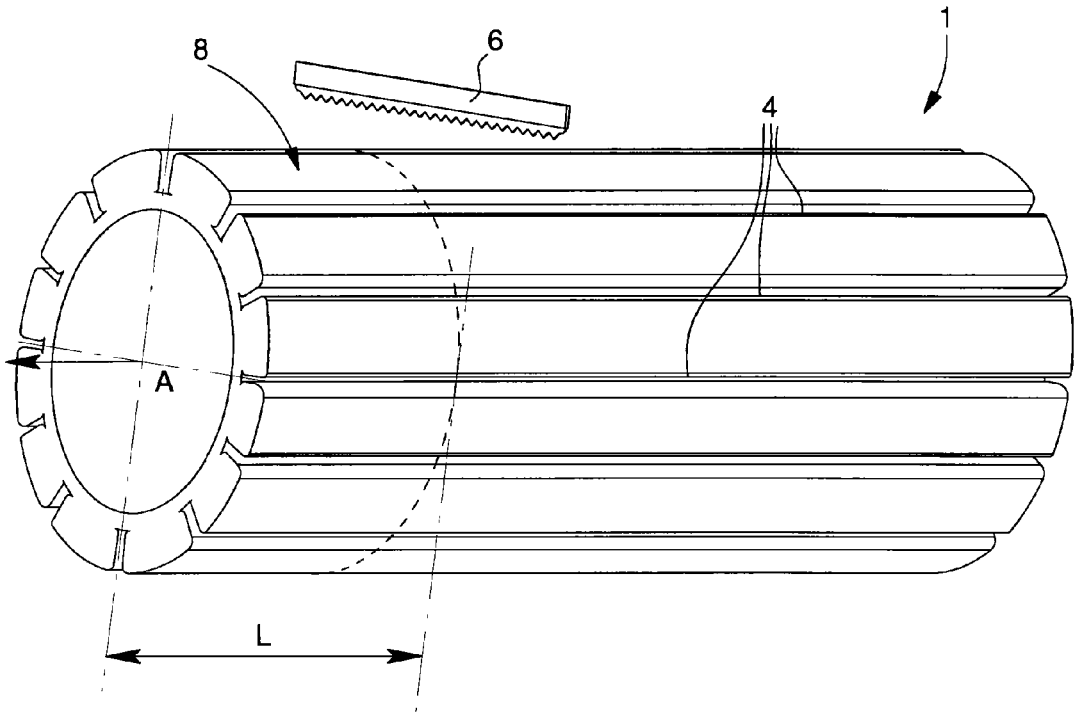


Fig. 2

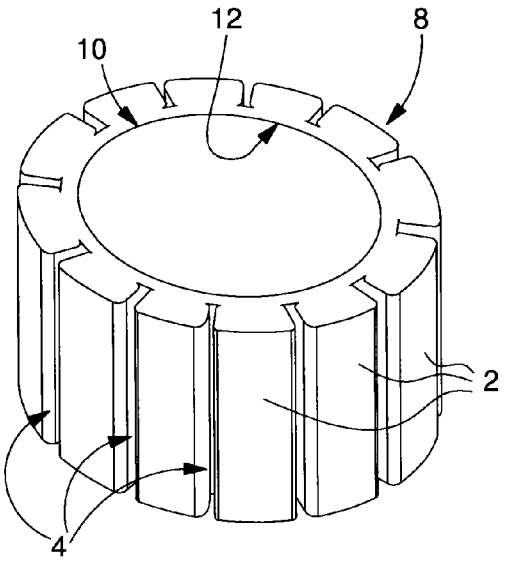


Fig. 3

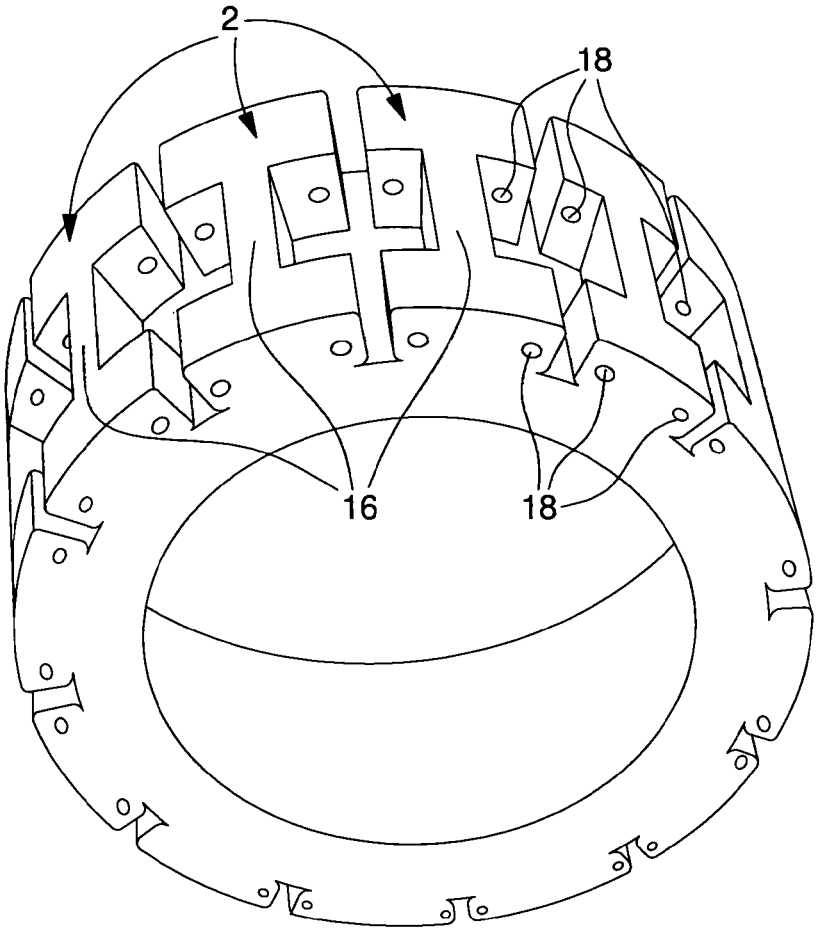
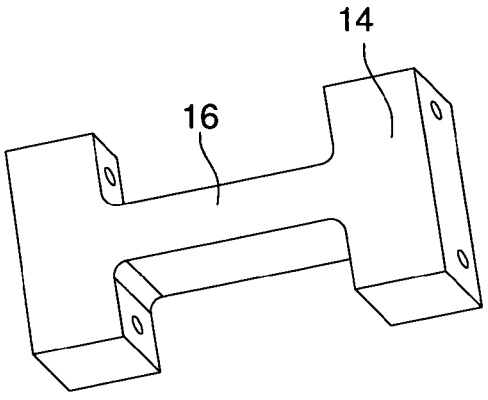


Fig. 4



METHOD FOR MANUFACTURING BRACELET LINKS

This application claims priority from European Patent Application No. 13176444.1 filed 15 Jul. 2013, the entire disclosure of which is incorporated herein by reference.

FIELD OF THE INVENTION

The present invention concerns a method for manufacturing bracelet links. More specifically, the invention concerns a method for the batch manufacture of bracelet links from a profile bar.

BACKGROUND OF THE INVENTION

There are two techniques commonly used for manufacturing bracelet links, one consisting in machining the links entirely by bar turning, and the other in making blanks for the links by embossing or die stamping, and then finishing the blanks by machining. These two techniques are piece-by-piece techniques. Manufacture rates are relatively low and the cost price of the links is quite high.

SUMMARY OF THE INVENTION

It is an object of the present invention to overcome these drawbacks by providing a method for the batch manufacture of bracelet links.

The invention therefore relates to a method for the batch manufacture of a plurality of bracelet links, characterized in that the method includes the steps of:

a) taking a profile bar of a material in which the future links are delimited in relation to each other transversely through slots extending in the general direction of extrusion of the profile bar;
b) performing a first rough machining, if necessary, in the profile bar, while it is still in a single piece,
c) cutting the profile bar over a determined length defining the width of the links to obtain a ring having a blank for the future links at the periphery thereof;
d) shaping the links in their final form by final rough machining;
e) thinning the surface of the ring forming the connection between the links until the links are separated from each other.

As a result of these features, the present invention provides a method for the batch manufacture of bracelet links in which the links are machined while the profile bar is still in a single piece or, at the latest, when the profile bar has been cut into a plurality of rings each carrying a plurality of blanks for the links at the periphery thereof. The link blanks can thus be machined while they are still in batches, which reduces manufacturing costs and accelerates production rates. A last step may consist in polishing the links once they have been separated. Advantageously, the link blanks are delimited in relation to each other transversely by slots which are in a single piece when the profile bar is extruded, so that the link blanks are already separated into individual blanks when the profile is still in a single piece, which will then facilitate the subsequent link finishing operations.

BRIEF DESCRIPTION OF THE INVENTION

Other features and advantages of the present invention will appear more clearly from the following detailed description of an example implementation of the method of the invention, this example being given purely by way of non-limiting illustration with reference to the annexed drawing, in which:

FIG. **1** is a perspective view of a profile bar according to the invention.

FIG. **2** is a perspective view of a ring cut into the profile bar of FIG. **1**.

FIG. **3** is a perspective view of the ring of FIG. **2** on which the rough machining operations for the link have been performed.

FIG. **4** is a perspective view of a link in the finished state.

DETAILED DESCRIPTION OF THE INVENTION

The present invention proceeds from the general inventive idea which consists in batch machining bracelet links in a profile bar. At least part of the machining operations can be carried out while the profile bar is still in a single piece or, at the latest, when the profile bar has been cut into a plurality of rings whose length determines a width of the links and wherein each ring groups together a plurality of link blanks. The machining operations can thus be carried out while the link blanks are still in batches, which accelerates manufacturing rates and reduces the cost price.

FIG. **1** is a perspective view of a profile bar for implementing the method of the invention. Designated as a whole by the general reference number **1**, this profile bar may be made of any extrudable material such as aluminium, gold, silver, titanium, ceramic or a plastic material. Profile bar **1** is extruded in a general direction of extrusion A.

As seen in FIG. **1**, a plurality of link blanks **2** are delimited in relation to each other transversely by slots **4** extending in the general direction of extrusion A of profile bar **1**. If necessary, the first machining operations of link blanks **2** may be performed in profile bar **1** while the latter is still in a single piece. At the latest, the rough grinding and finishing operations will be performed on link blanks **2** after profile bar **1** has been cut by means of a cutting tool **6** into a plurality of rings **8**, one of which is shown in FIG. **2**. The sectioning length L of profile bar **1** defines the width of link blanks **2**.

Each ring **8** groups together on its periphery **10** a plurality of link blanks **2**. According to a first embodiment of the invention which is not illustrated, link blanks **2** are distributed radially over the inner periphery of ring **8**. According to a second embodiment illustrated in FIG. **2**, link blanks **2** are distributed radially over the external periphery of ring **8**. As will be seen below, the periphery **10** of ring **8** forms a surface **12** which connects link blanks **2** to each other until the links are separated from each other.

Profile bar **1** may be solid. Preferably, it will be hollow. According to the invention, the link blanks **2** are shaped into their final form by a final rough machining operation. These machining steps are thus carried out while link blanks **2** are still in batches. The machining steps include machining the external shape of link blanks **2**. For example, the finished links **14**, an example of which is shown in FIG. **4**, are H-shaped, with a cross bar **16** extending in the general direction of extrusion A. The final shaping step of link blanks **2** further includes the drilling of holes **18** intended to receive bars (not shown) for fixing the links to each other.

The final step of the manufacturing method of the invention consists in thinning the surface **12** of ring **8** until link blanks **2** are detached from each other to form a plurality of finished links **14**. A final step of polishing finished links **14** may be envisaged.

It goes without saying that this invention is not limited to the embodiment that has just been described and that various simple modifications and variants can be envisaged by those skilled in the art without departing from the scope of the invention as defined by the annexed claims. It will be clear, in particular, that part of the machining operations may be performed while the profile bar is still in a single piece, or that it is also possible to cut the profile bar into a plurality of rings whose width corresponds to that of the rings.

What is claimed is:

1. A method of batch manufacturing bracelet links comprising:

extruding a profile bar along a general direction of extrusion, the profile bar made of a material in which link blanks are delimited in relation to each other transversely by slots extending in the general direction of extrusion;

cutting the profile bar over a determined length defining a width of the link blanks so as to obtain a ring including the link blanks at a periphery thereof;

shaping the link blanks into a final form by a final machining operation; and

thinning a surface of the ring forming a connection between the link blanks until the links are separated from each other.

2. The manufacturing method according to claim **1**, wherein the profile bar is hollow.

3. The method according to claim **2**, wherein the slots are machined in an external periphery of the profile bar.

4. The method according to claim **3**, wherein the shaping the link blanks includes machining an external shape of the link blanks.

5. The method according to claim **4**, wherein the form of the links is H-shaped, the cross bar of the H extending in the general direction of extrusion.

6. The method according to claim **2**, wherein the shaping the link blanks includes machining an external shape of the link blanks.

7. The method according to claim **6**, wherein the form of the links is H-shaped, the cross bar of the H extending in the general direction of extrusion.

8. The method according to claim **1**, wherein the slots are machined in an external periphery of the profile bar.

9. The method according to claim **8**, wherein the shaping the link blanks includes machining an external shape of the link blanks.

10. The method according to claim **9**, wherein the form of the links is H-shaped, the cross bar of the H extending in the general direction of extrusion.

11. The method according to claim **1**, wherein the shaping the link blanks includes machining an external shape of the link blanks.

12. The method according to claim **11**, wherein the form of the links is H-shaped, the cross bar of the H extending in the general direction of extrusion.

13. The method according to claim **1**, wherein the shaping the link blanks further includes drilling holes intended to receive bars securing the links to each other.

14. The method according to claim **13**, wherein the form of the links is H-shaped, the cross bar of the H extending in the general direction of extrusion.

15. The method according to claim **1**, wherein the method further includes polishing the links that are separated.

16. The method according to claim **1**, wherein the material of the profile bar is selected from among aluminium, silver, gold, titanium, a ceramic or plastic material.

17. The method according to claim **1**, further comprising performing a first machining in the profile bar, while the profile bar is still in a single piece.

18. The method according to claim **1**, wherein the ring includes an inner surface and an outer surface, and the thinning is performed on the inner surface of the ring.

19. A method of batch manufacturing bracelet links comprising:

extruding a profile bar along a general direction of extrusion, the profile bar made of a material in which link blanks are delimited in relation to each other transversely by slots extending in the general direction of extrusion;

cutting the profile bar over a determined length defining a width of the link blanks so as to obtain a ring including the link blanks at a periphery thereof;

shaping the link blanks into a final form by a final machining operation; and

thinning an inner portion of the ring forming a connection between the link blanks from a radially inward position until the links are separated from each other.

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